



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Rigazio et al.	:	
Serial No.:	09/628,828	:	Group: 2654
Filed:	July 31, 2000	:	Examiner: Qi Han
For:	RECOGNITION SYSTEM USING LEXICAL TREES	:	

DECLARATION

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

Luca Rigazio declares as follows based on his personal knowledge:

(a) that he is an inventor applicant of the above-referenced application;

(b) that he is an expert in the art of speech recognition processes;

(c) that he has read and understood Mitchell et al. (U.S. Pat. No. 6,574,595);

(d) that he has read and understood the Response to the outstanding Office action and agrees with it;

(e) that Mitchell et al. fails to teach the claimed subject matter of processing a lexical tree using a backward recursion of the lexical tree in order to propagate an active envelope forward in the lexical tree for the following reasons:

(i) ASR Search algorithms are commonly divided in two passes: (1) a forward pass, used to build a likelihood lattice (by matching the speech input with the acoustic, language and lexical models); (2) a backward pass, used to explore the likelihood lattice to extract the most likely sequence (phone, word sequence);

(ii) the Backward pass is performed starting from the end of the lattice backward, by definition, whereas the Forward pass is usually performed starting from the root of the lexicon / language model / word lattice structure forward;

(iii) Mitchell et al. are referring to the aforementioned Backward pass, which does not propagate an active envelope in the lexical tree structure, but merely analyzes a word lattice that has already been constructed by a completed Forward pass;

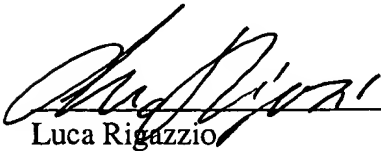
(iv) as illustrated in Exhibit A, Applicants' claimed invention is a novel implementation of the Forward pass that, unlike anything in the prior art, propagates an active envelope forward (or also possibly at times backwards in a continuous speech recognizer) in a lexical tree structure by processing the lexical-tree structure starting from the deepest node of the active envelope and

traversing backwards (this has many computational advantages over the usual forward traversal, including better cache hit);

(v) Accordingly, Mitchell et al. do not teach the claimed subject matter because they are referring to the aforementioned Backward-pass, and while we agree that processing the Backward pass in a backward direction is well known art in the literature, it is not art for the backward topological traversal of the lexical tree during lattice construction (propagation of active envelope) according to Applicants' claimed invention.

(f) that all statements made herein of his own knowledge, are true, and that all statements made on information and belief are believed to be true; and

(g) that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

  
Luca Rigazzio

8-15-2003  
Date